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Case Report

Choroidal metastasis as the presenting feature in a case of testicular choriocarcinoma

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Abstract

A twenty-six year old male with decreased vision in right eye was diagnosed with non-rhegmatogenous retinal detachment. Further evaluation revealed a yet undiagnosed left testicular mass found to be choriocarcinoma on histopathology. Chemotherapy resulted in complete remission; however, there was no improvement in vision. There is a substantial risk of visual loss in the presence of ocular metastatic lesions. Early detection and treatment is highly effective in terms of tumor control and a more favorable survival and visual outcome. The onus of the ocular diagnosis lies on the ophthalmologist. The presence of a testicular origin tumor must be considered in a young male with intraocular metastasis.

Keywords: Choroidal metastasis, Retinal detachment, Choriocarcinoma of testis

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Introduction

Ocular involvement may be the first presenting feature of an underlying systemic malignancy, in which testis as the primary location is rare (1.5%).[1] Choriocarcinoma of the testis is a rare cause of choroidal metastasis. We report a case of decreased visual acuity in a young male which led to the diagnosis of testicular choriocarcinoma.

Case report

Twenty-six year old male presented with a one month history of decreased vision in the right eye. Visual acuity was hand movements right and 20/20 left. Right afferent pupillary defect was elicited. Left eye examination was within normal limits. On fundus examination of the right eye, non-rhegmatogenous retinal detachment involving the infero-temporal retina, the macula and masking the disk was seen (Fig. 1). Ocular ultrasound of the right eye showed a plateau-shaped solid choroidal mass (18 × 14.6 mm in diameter with 10 mm in maximum thickness) with irregular surface and variable internal reflectivity in the infero-temporal quadrant, along with overlying retinal detachment.

On further questioning he gave a history of cough for the past 1 month. Systemic examination revealed gynecomastia and a hard non-tender mass in the left scrotum.

Ultrasound of scrotum showed a left testicular mass measuring 7 × 6.3 × 8.5 cm. CT thorax revealed multiple soft tissue nodules in bilateral lung parenchyma with hilar and peribronchial lymphadenopathy (Fig. 2). Serum lactate dehydrogenase was elevated (1715 U/L). Serum levels of tumor markers like human chorionic gonadotropin (412,789 mIU/mL) and alpha-fetoprotein (1,140,000 ng/mL) were also elevated.

Histo-pathological examination of orchiectomy specimen revealed malignant choriocarcinoma with typical admixture of cytotrophoblast and syncytiotrophoblast (Fig. 3).

Diagnosis of choriocarcinoma of testis with lung and intraocular metastases was made. The patient was categorized as having a poor prognosis because of the high HCG level and presence of choroidal metastasis. He was started on chemotherapy with bleomycin, etoposide and cisplatin. Three

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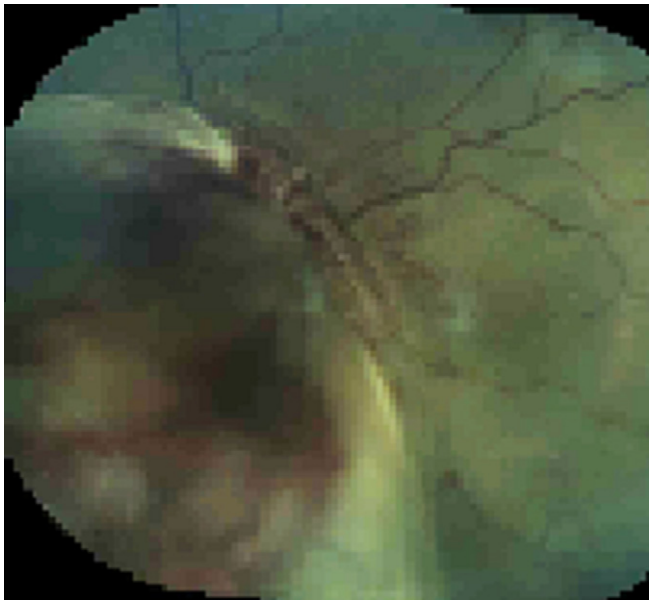

Figure 1. Fundus photograph showing the hemorrhagic retinal detachment.

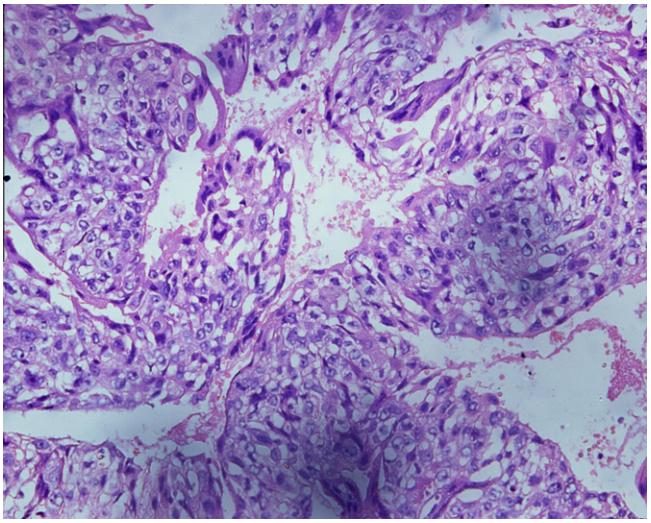

Figure 3. The image shows an admixture of large multinucleated cells with smudged nuclear chromatin (syncytiotrophoblasts) forming a ''cap'' around a cluster of polygonal cells with clear cytoplasm (cytotrophoblasts). Cytotrophoblasts are arranged in a villous like architecture.

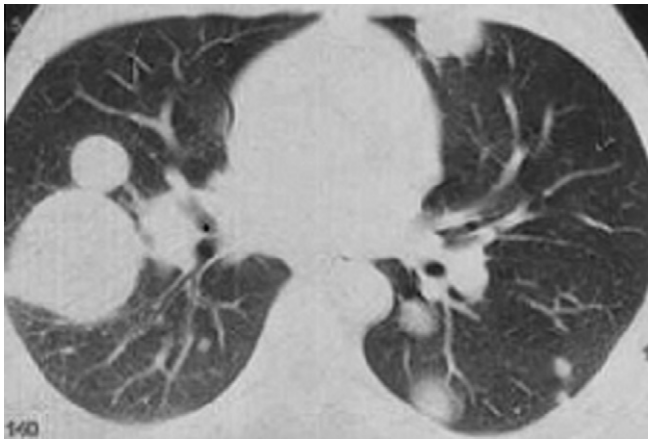

Figure 2. CECT thorax showing the lung metastasis.

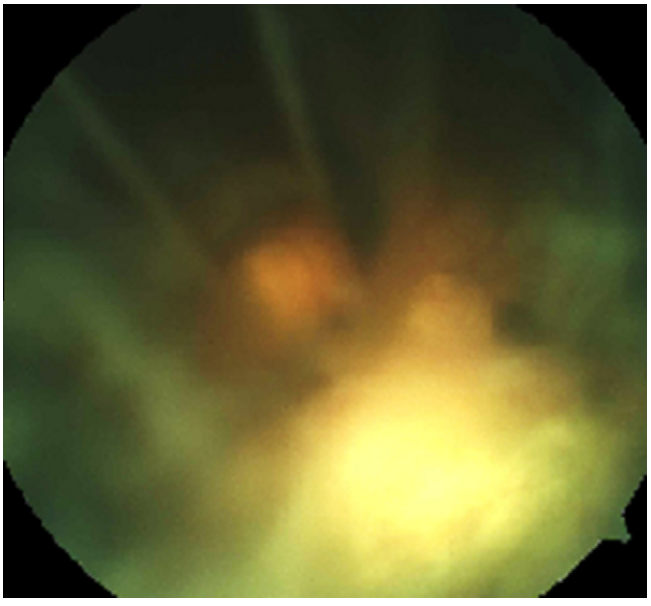

Figure 4. Fundus photograph showing the fibrotic bands and the underlying subretinal fibrosis.

courses resulted in the resolution of lung nodules (Fig. 4) and a negative marker. On ocular ultrasound no mass could be appreciated. However, there was no improvement in the vision of the right eye (Fig. 5).

Discussion

Pure choriocarcinoma of the testis is the most malignant of germ cell tumors. Most common visceral site of hematogenous metastasis is the lung, followed by liver, brain and bone with choroidal metastasis being extremely rare.[2] High levels of tumor markers and the presence of non-pulmonary visceral metastasis increase the risk stratification according to the international germ cell consensus classification.

One study reported cure in only two of 16 cases of testicular choriocarcinoma metastatic to the choroid.[3] Advances in chemotherapy involving cisplatin-based regimens have markedly improved the prognosis. The visual prognosis in metastatic choriocarcinoma to the choroid has been poor. In a recent case, a patient with choroidal metastasis from testicular choriocarcinoma was treated successfully with chemotherapy with visual outcome of 20/40.[4] In our case the early detection of the testicular tumor enabled prompt initiation of chemotherapy thereby resulting in a cure in spite of the poor prognosis. The visual status remained poor because of the marked fibrotic reaction and involvement of the macula.

There is a substantial risk of visual deterioration and possible total blindness in the presence of ocular metastatic

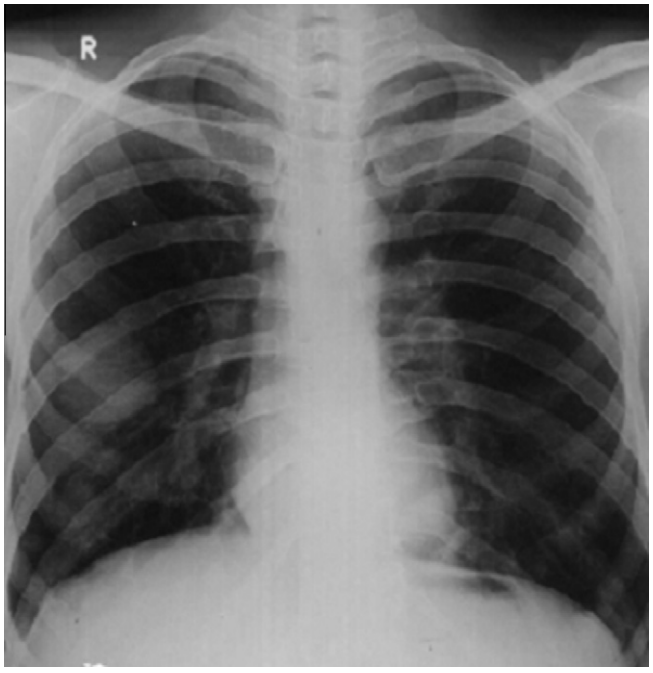

Figure 5. Chest X-ray showing clear lung fields.

lesions. Also the presence of intraocular metastasis indicates a widespread dissemination of the underlying tumor with poor prognosis. Early detection and treatment are highly effective in terms of tumor control and a more favorable survival and visual outcome.

The role of an ophthalmologist in such patients is to establish the ocular diagnosis (34% of patients with uveal metastasis do not have history of primary cancer).[2] The presence of a testicular origin tumor must be considered in a young male.

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